

Appln. No. 09/419,305  
Amd. dated October 23, 2003  
Reply to Office Action of July 30, 2003

REMARKS

The Office Action has been carefully reviewed. No claim is allowed. Claim 1 presently appears in this application and defines patentable subject matter warranting its allowance. Reconsideration and allowance are hereby respectfully solicited.

Claim 1 has been rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement and because the specification, while being enabling for the enzyme of SEQ ID NO:1 or enzymes encoded by genes which will hybridize to SEQ ID NO:2 under specific conditions, does not reasonably provide enablement for any enzyme with the claimed properties. The rejections are respectfully traversed.

Regarding the lack of written description rejection, applicants would like to point out that the enzyme having an amino acid sequence of SEQ ID NO:1 in which one or more amino acids are replaced, deleted, or added and not having the amino acid sequence of SEQ ID NO:3 and/or SEQ ID NO:4 is encompassed in a variant of the enzyme having an amino acid sequence of SEQ ID NO:1. Applicants believe that the recitation of "not having the amino acid sequence of SEQ ID NO:3 and/or SEQ ID NO:4" further defines the variant rather than introduces new matter.

Regarding the lack of enablement rejection in which the examiner has taken the position that the experimentation required to make variants and to test all of them to see if they

have the physicochemical properties as recited in claim 1 would be undue experimentation, applicants believe that it would be easy for a skilled artisan to prepare variants, even if they contain a lot of alterations, once a DNA which encodes an amino acid sequence of SEQ ID NO:1 is given. Applicants further believe that it would not require undue experimentation to screen a variant having the physicochemical properties as recited in claim 1 from a pool of variants that can be easily obtained, because it is not necessary to test all the physicochemical properties on the obtained variants. A skilled person may test the obtained variants, at first, with regard to "(1) Action" and "(5) Thermostability" only. For example, a skilled person may produce a lot of variants regardless of the number of alterations and then incubate them at 85°C under the condition of pH 7.0 for 60 min. After that, "(1) Action" would be tested in accordance with the disclosed test for enzymatic activity. Since any variants not having the thermostability of claim 1 may have lost their enzymatic activity during incubation, the number of variants which still retain the recited "(1) Action" property will be remarkably decreased. Other physicochemical properties, such as "(2) Optimum temperature", "(3) Optimum pH", "(4) pH stability", could then be tested on the reduced number of possible candidate variants according to the present invention. Such screening is not believed to be undue experimentation.

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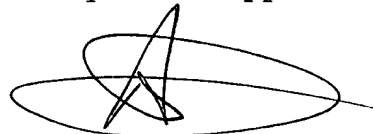
Reconsideration and withdrawal of the rejection are  
therefore respectfully requested.

In view of the above, the claim complies with 35 U.S.C.  
§112 and defines patentable subject matter warranting its  
allowance. Favorable consideration and early allowance are  
earnestly urged.

Respectfully submitted,

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By

A handwritten signature in black ink, appearing to be 'Allen C. Yun', is written over a horizontal line.

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